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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/816,524

04/01/2004

Hubert Schalk

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9895

27799

7590

08/24/2006

COHEN, PONTANI, LIEBERMAN & PAVANE
551 FIFTH AVENUE
SUITE 1210
NEW YORK, NY 10176

EXAMINER

DESAI, HEMANT

ART UNIT

PAPER NUMBER

3721

DATE MAILED: 08/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/816,524	Applicant(s) SCHALK, HUBERT	
	Examiner Hemant M. Desai	Art Unit 3721	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2, 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Worthington et al. (3020042) in view of Petrzalka et al. (5118214).

Worthington et al. disclose a folding device comprising a folding drum (3, fig. 1), a folding-blade shaft (10, 11, fig. 1) having two ends, the folding-blade shaft being rotatably mounted at each of the two ends in the folding drum (see fig. 1, col. 2, lines 25-27), the folding-blade shaft (10, 11) having at least two folding-blade carriers (12, fig. 1) for holding folding blades (see fig. 1), a pair of bearings arranged in the folding drum, the ends of the folding blade shaft being mounted respectively in the folding drum by the pair of bearings (since the folding blade shaft 10-11 are rotatably mounted on brackets, therefore mounting of two ends of the folding blade shaft by the pair of bearings is inherent part of mounting of the shaft), and at least one further bearing (see fig. 1) arranged in the folding drum between the pair of bearings, wherein the folding-blade shaft is further rotatably supported in the at least one further bearing (fig. 1) between the ends of the folding-blade shaft, and a drive pinion (spur gears 13, 17, fig. 1) arranged on the folding blade shaft (10, 11).

Worthington et al., as mentioned above, disclose all the claimed limitations, except for the drive pinion (spur gears 13, 17) is connected to the folding shaft with form-fitting connection. However, Petrzalka et al. Teaches a form-fitting connection by serrated teething (see figs. 1-2) to provide simple design which ensures problem-free transmission of the necessary torque values (see col. 2, lines 30-33) between connecting piece (1, fig. 1) and shaft (7, fig. 1). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to connect the drive pinion of Worthington et al. to the folding shaft with form-fitting connection as taught by Petrzalka et al. to provide simple design which ensures problem-free transmission of the necessary torque values between drive pinion and the folding blade shaft.

Regarding claim 8, Worthington et al., as mentioned above, disclose that the one further bearing being supported on the carrier and the carrier is connected to the drum (see fig. 1). Worthington et al. do not disclose expressly that the carrier is connected to the drum by threaded connection. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide threaded connection since it was known in the art that provide threaded connection to connect two parts.

Regarding claim 9, Worthington et al., as mentioned above, disclose that the two folding blades (12) spaced apart from one other (see fig. 1). Worthington et al. do not disclose expressly that the folding blades are spaced apart from one another by a distance smaller than 10 millimeters. At the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to space

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the folding blades apart by 10 millimeters because Applicant has not disclosed that by providing 10 millimeters of space between two folding blades provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with either the folding blade spaced apart as taught by Worthington et al. or the claimed folding blades spaced apart 10 millimeters because both folding blades with spacing of 10 millimeters or the spacing taught by Worthington et al. perform the same function of creating fold in the product. Therefore, It would have been an obvious matter of design choice to modify Worthington et al. to provide a 10 millimeters spacing in order to creating fold in the product.

Regarding claim 2, the at least one further bearing (fig. 1) is arranged between adjacent ones of the at least two folding-blade carriers.

Regarding claim 7, the one further bearing being supported on the carrier (see fig. 1).

Regarding claim 10, the pinion (13,17) is connected and rotating with folding blade shaft, therefore a force-transmitting connection is inherent part of the mechanism.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Worthington et al. and Petrzelka et al. as applied to claim 1 above and further in view of Turner (4811688).

The folding device of Worthington et al. as modified by Petrzelka et al. meets all the limitations of claim 3 except the three bearings are self-aligning roller bearings. Turner teaches that it known to support shaft (roller 30, fig. 1) in self-aligning roller bearings. It would have been obvious to one having ordinary skill in the art at the time the invention was made to support the folding blade shaft of Worthington et al. in the self-aligning roller bearings, as taught by Turner, since Turner states at col. 2, lines 48-51 that such a modification would reduce friction to a minimum.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Worthington et al., Petrzelka et al. and Turner as applied to claim 3 above, and further in view of Ryser (6527029).

The folding device of Worthington et al. as modified by Petrzelka et al. and Turner, meets all the limitations of claim 4, except for central lubricating system to supply lubricating medium to the bearings. However Ryser teaches to provide the central lubrication system (32, fig. 5) to lubricate the bearings (31, fig. 5) of the driving shaft (see col. 3, lines 46- 60). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to having provided the central lubrication system as taught by Ryser in the modified folding device of Worthington et al. to lubricate the bearings of folding blade shaft.

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6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Worthington et al. and Petrzelka et al. as applied to claim 1 above, and further in view of Ryser (6527029).

The folding device of Worthington et al., as modified by Petrzelka et al. meets all the limitations of claim 5, except for central lubricating system to supply lubricating medium to the bearings. However Ryser teaches to provide the central lubrication system (32, fig. 5) to lubricate the bearings (31, fig. 5) of the driving shaft (see col. 3, lines 46- 60). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to having provided the central lubrication system as taught by Ryser in the folding device of Worthington et al. to lubricate the bearings of folding blade shaft.

Response to Arguments

7. Applicant's arguments filed 6/29/2006 have been fully considered but they are not persuasive. In response to applicant's argument that the prior art reference must teach or suggest all the claimed limitation. As, mentioned above, in the rejection Worthington et al. disclose all the limitations including the drive pinion (13, 17) arranged on the folding blade shaft. However, Worthington et al. do not disclose the form fitting connection by serrated toothing. Examiner relied on secondary reference, Petrzelka et al. (5118214), to show that the form-fitting connection by serrated toothing between two objects is known in the art to transmit the motion without axial displacement. Therefore it would have been obvious to provide the toothing in the inner side of the pinion of the Worthington et al. to form form-fitting connection between the pinion and the shaft of the

Worthington et al. as taught by Petrzelka et al. to transmit the motion without axial displacement of the pinion. In response to Applicant's argument that there is no suggestion to combine the references, the Examiner recognizes that references cannot be arbitrarily combined and there must be some reason why one skilled in the art would be motivated to make the proposed combination of primary and secondary references. *In re Nomiya*, 184 USPQ 601 (CCPA 1915). However, there is no requirement that a motivation to make the modification be expressly articulated. The test for combining reference is what the combination of disclosures take as a whole would suggest to one of the ordinary skill in the art. *In re McLaughlin*, 110 USPQ 209 (CCVA 1971). References are evaluated by what they suggest to one versed in the art, rather than by their specific disclosures. *In re Bozek*, 163 USPQ 545 (CCPA 1969). Therefore in response to Applicant's argument that because Petrzelka et al. do not refer to folding device or drive pinion, note that Worthington et al. disclose a folding device and the pinion connected to the folding-blade shaft. Examiner relied on the Petrzelka et al. reference to teach the form-fitting connection between two parts to transmit the motion. And therefore the combination of disclosures of both the references as a whole would suggest to one of the ordinary skill in the art to provide the form fitting connection as taught by Petrzelka et al. between the pinion and folding shaft of the Worthington et al. to transmit the motion.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hemant M. Desai whose telephone number is (571) 272-4458. The examiner can normally be reached on 6:30 AM-5:00 PM, Mon-Thurs..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rinaldi I. Rada can be reached on (571) 272-4467. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hemant M. Desai

Hemant M Desai
Examiner
Art Unit 3721

HMD